

REMARKS

Applicants thank the Examiner for carefully considering this application and indicating that claims 3, 4, 13, and 20 are patentable if rewritten in independent form. Please reconsider the application in view of the above amendments and the following remarks.

Disposition of Claims

Claims 1, 3-6, 8-11, 13-15 and 17-20 were pending in this application. Claims 1, 3, 4, 6, 8, 9, 11, 13, 15, 17, 18, and 20 have been amended in this reply to clarify the invention recited. Support for the amendments, for example, may be found in the specification, paragraphs [0010] and [0016]. No new matter has been introduced by these amendments. Claims 1, 3-4, 6, 11, 13, 15 and 20 are independent. The remaining claims depend, directly or indirectly, from claims 1, 6, 11, and 15.

Rejection(s) under 35 U.S.C § 102

A. Claims 6, 9, 10, 15-18 and 19 were rejected under 35 U.S.C. § 102 as anticipated by Heilweil (U.S. Patent No. 4,498,994) (“the Heilweil patent”). Claims 6, 9, 15, 17, and 18 have been amended by this reply. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

The present invention relates to thermally-stable, substantially water-free well fluids and methods for treating a well using such fluids. Because of the stress conditions (e.g., high temperatures, high shear, high pressures, and low pH) to which well fluids are often exposed, prior art polymer based well fluids tend to degrade rather quickly. The polymers are used to

viscosify the well fluids. (Specification, paragraph 9). High viscosity can reduce fluid loss or serve other purposes (e.g., suspend propanants). Once the viscosifying polymers are degraded, they can no longer maintain the required viscosity. Embodiments of the invention provide well fluids that are substantially free of water and, thus, are more resistant to stress-induced degradation. Embodiments of the invention use alcohols, diols, polyols, and their derivatives (e.g., ethers or glycerolates) to dissolve polymers and salts. These compositions are substantially water-free and, therefore, the polymers are not prone to degradation.

As amended, claims 6 and 15 are directed to well fluids in which the alcohol compound comprises glyceroethoxylates. That is, these claims include the limitation of “an alcohol compound comprising glycerolethoxylate.”

The Heilweil patent does not teach or suggest the use of glyceroethoxylate. Instead, the Heilweil patent discloses the use of glycols and glycol derivatives. Therefore, the Heilweil patent cannot anticipate amended claims 6 and 15. Claims 9, 10, 18, and 19, which depend, directly or indirectly, from claim 6 or 15, should also be patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

B. Claims 1, 5, 11 and 14 were rejected under 35 U.S.C. § 102 as anticipated by the published application, WO 96/19545 (“the WO 96/19545 application”). Claims 1 and 11 have been amended by this reply. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

Polymers used in well fluids of the invention are for increasing the viscosities of the well

fluids. Examples of these polymers include natural polymers (e.g., starch, guar gum, and xanthan gum) or their derivatives (e.g., hydroxyethyl cellulose, HEC) and synthetic polymers. (Specification, paragraph 27). The fact that the “polymer” recited in the claims is a *viscosifying* polymer (not any polymer) should be apparent to one skilled in the art, in light of the specification and the examples included therein. (See e.g., Specification, paragraphs 9, 10, 16, and 17-25). To clarify the invention and to avoid possible confusion, claims 1 and 11 have been amended to recite the limitation of “a viscosifying polymer.” Note that this amendment is for clarification only and is not to narrow the scope of the invention for the purpose of overcoming prior art, as discussed below.

The WO 96/19545 application discloses the use of nylon and synthetic resins (in addition to glass beads, quartz sand grains, etc.) as propants. Propants are particulates used in hydraulic fracturing to prop open formation fractures and openings to facilitate out-flow of fluids from the formations. (See the WO 96/19545 application, p. 9, 2-17). As such, the nylon or synthetic resins disclosed in the WO 96/19545 are insoluble polymers that cannot increase the viscosity of a fluid, i.e., these polymers are unrelated to the viscosifying polymers of the present invention. Because the WO 96/19545 application fails to disclose or suggest the use of a viscosifying polymer, as recited in the amended claims 1 and 11, these claims are patentable over the WO 96/19545 application. Claims 5 and 14, which depend from claim 1 and 11, should also be patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection(s) under 35 U.S.C § 103

A. Claims 6, 8-10, 15 and 17-19 were rejected under 35 U.S.C. § 103 as being unpatentable over Vollmer. (U.S. Patent No. 5,785,747) (“the Vollmer patent”). Claims 6, 8, 9, 15, 17, and 18 have been amended by this reply. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

As noted above, claims 6 and 15 have been amended to include the limitation of “an alcohol compound comprising glycerethoxylate.”

The Vollmer patent discloses the use of glycols and glycerols. (Col. 6, lines 26-32). It does not teach or suggest the use of glycerethoxylate and, therefore, cannot anticipate amended claims 6 and 15. Accordingly, these claims are patentable. Claims 8-10 and 17-19, which depend, directly or indirectly, from claim 6 or 15, should also be patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Allowable Subject Matter

Claims 3, 4, 13, and 20 have been rewritten in independent form including all of the limitations of their respective base claims. Therefore, these claims are now allowable.

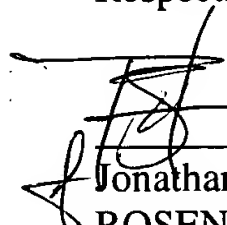
Conclusion

• Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below.

Please apply any charges not covered, or any credits, to Deposit Account 50-0591
(Reference Number 05542.012001).

Respectfully submitted,

Date: 2/9/04

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